

Philad^a 27th March 1855

Enclosed I send 3 bills of lading for three several shipments of fusible alloys authorized by the department. Duplicates will be forwarded to the inspectors who have ordered the same. I further propose to forward to the department a box containing samples of each alloy from 100 to 160 lbs pressure. To prevent the inspectors and others from being under the necessity of melting more than is necessary at one time, I have concluded to cast all in one-lb moulds. You will please observe the samples forwarded that each piece weighs a little more than one lb. since they are cast in open moulds, in which it is impracticable to cast precisely a pound, and since making the alloys is not designed in a mercantile, I have supposed it would comport with the views of the department, rather to exceed than fall short of the true weight. I find that the true weight averages 10 per cent more than the number of pieces as the following table exhibits.

Shipments to the Three Inspectors

	Lbs ordered	No of pieces sent	actual wt.
Haldeman & Guthrie, Cincinnati, Ohio	330	330	365 $\frac{2}{3}$
Isaac Lewis Monroe Michi.	100	100	110 $\frac{1}{2}$
Dickey & Watson Pittsburg Pa.	225	225	246 $\frac{1}{2}$

The cost of metal in the alloys shipped is about 30 cts. pr. lb., and a charge of \$1. pr. lb. or $\frac{1}{2}$ piece, will repay the dept^t for all the cost of experiment and manufacture, for 1 $\frac{1}{2}$ tons of alloy ordered. Further, from some experiments which were interrupted by the necessity of immediate manufacture, I infer that I can make many of the alloys of a new composition which I am not aware of having ever been employed, and which will cost still less.

In effect the Dept^t supplies a gross ton of alloy, but charges only for the nett ton of 2000 lbs.

If the Dept. objects to this mode of proceeding, I shall hereafter send only the actual weight ordered, without reference to the exact weight of each piece.

Having supplied the first three orders, we shall at once prepare a stock of alloys of from 100 to 160 lbs. which can be done in the course of a week or more, and then proceed with the preparation of those below 100 lbs. pressure. I believe we can manufacture a stock of the latter within 3 or 4 weeks, after which we shall be ready to supply any reasonable amount, for all pressures, upon demand.

Hon James Guthrie
Sec. Treas. U.S.
Washington
D.C.

I have the honor
to be
Yrs. &c
Jas C Booth

1855
March 27th
J. CB. to Sec. Treas.